## APPARATUS, SYSTEM AND METHOD FOR DETERMINING MAXIMUM PAYOFF IN MULTIPARTY NEGOTIATIONS

## ABSTRACT OF THE DISCLOSURE

An apparatus, system, and process for determining solutions with maximum payoff in a negotiation are provided. The invention includes calculating a sum of weighted option preference values for each option set of each issue across all parties. The sum of weighted option preferences is calculated from negotiation parameters determined by the negotiation parties. A maximum sum of weighted option preferences for each issue is calculated. The maximum of the sum of weighted option preferences for each issue forms an option set solution with the maximum negotiation payoff. The combined utility of the maximum negotiation payoff is equal to the sum of the maximum of the sum of the weighted option preferences. The convexity or degree of utility surplus in the negotiation is equal to the difference of the sum of the maximum of the sum of the weighted option preferences and one hundred per cent divided by the number of parties minus one. The negotiation solution is determined with reduced computational resources.

C:\Documents and Settings\Scott\My Documents\Patents\1324\1300.2.24.3\_Dec29Markup.doc